

**CONCPETUAL UNDERSTANDING OF COLLEGE STUDENTS ON  
MOLECULAR GEOMETRY USING  
THE 5E LEARNING CYCLE APPROACH**

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By

Raymond G. Lalic  
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## ABSTRACT

The objective of this study is to investigate the conceptual understanding of college students on Molecular Geometry. It sought to identify their conceptual understanding and level of understanding before and after being exposed to three lesson plans that apply the 5E Learning Cycle Approach consisting of the stages of Engagement, Exploration, Explanation, Elaboration and Evaluation. The study was conducted at the De La Salle University-Dasmariñas during the first semester of school year 2005-2006. The respondents were comprise 18 college students during their General and Inorganic Chemistry lecture class. A ten-item Conceptual Understanding Test (CUT) was used as a pretest and posttest. The questions were lifted from the exercises from Chang (2000) Brown (1997) and the test bank on the website from Duke University (<http://www.duke.edu/~ljw5/testgeo.htm>). Three 5E lesson plans on Molecular Geometry were conducted for ninety minutes for three consecutive sessions. The scores of the students and their level of understanding was rated using a scoring criteria adapted from Cabestrante (2004). The scores of each student in the pretest and posttest were tested using the Wilcoxon Signed-Rank Pairs test or W-test and the results revealed that the 5E learning cycle approach gave improvement in the conceptual understanding of students on Molecular Geometry at 0.05 level of significance. The level of understanding was classified as Best Understanding (BU), Partial Understanding (PU), Complete/Incomplete (CI), Functional Misconception (FM) and Worst Understanding (WU). Prior to instruction, the responses of the students were mostly on the level of worst understanding. After instruction, the level of understanding was towards partial understanding and showed less improvement in the best understanding.

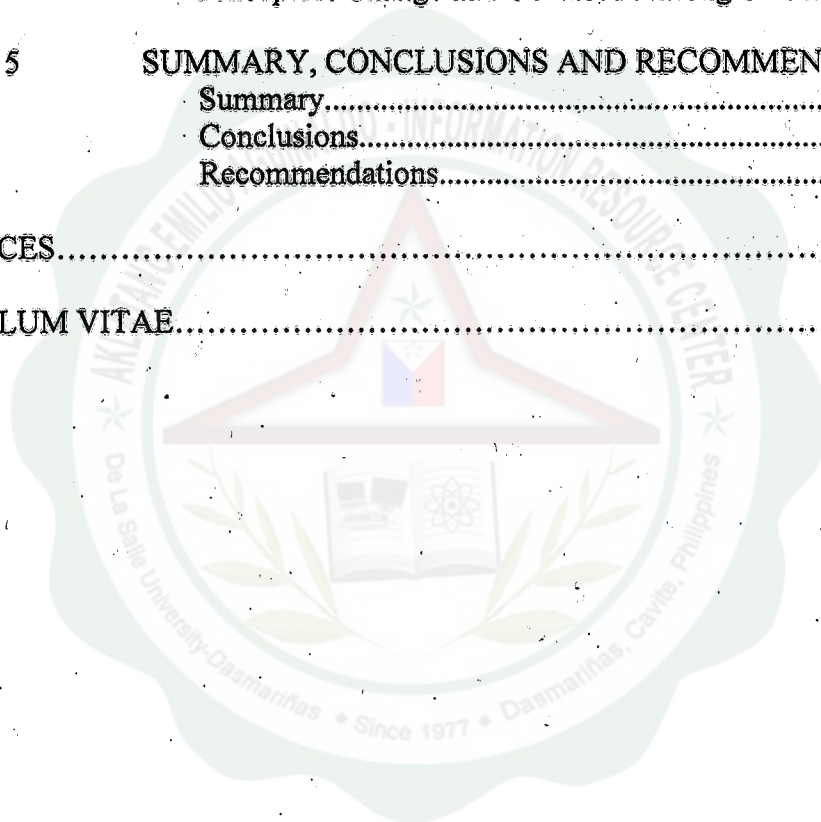
complete/incomplete and functional misconception levels. The conceptual change of the students was classified as unchanged conception, change for the better and regression. Upon determining the conceptual change that occurred among the students, the results showed that the predominant students' conceptual change was change for the better after instruction with 87 out 180 of the total responses.



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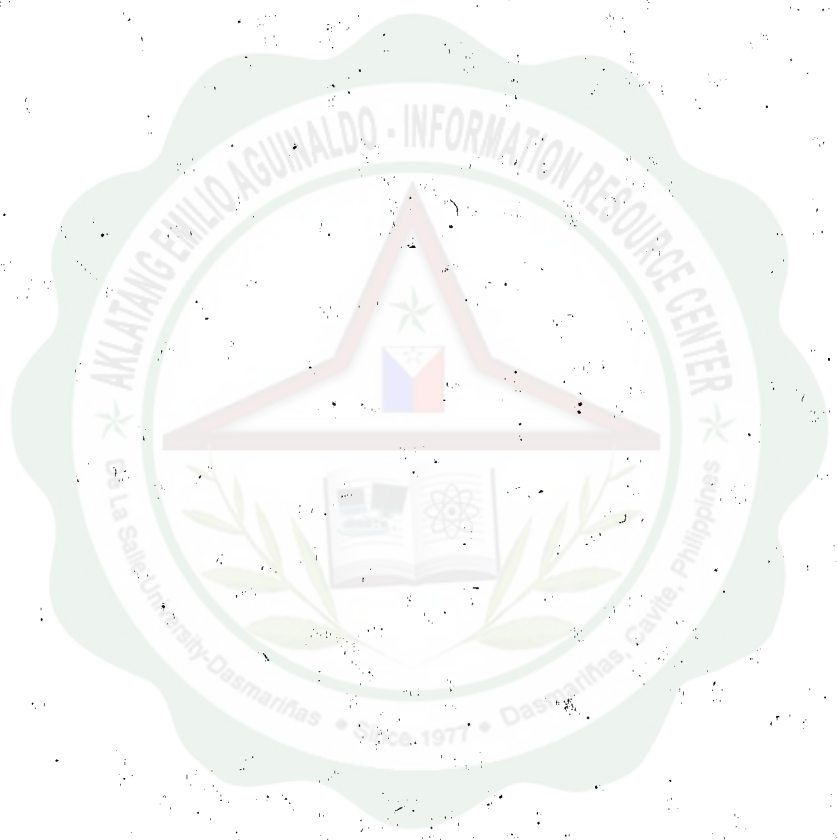
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